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ABSTRACT

The theory that teachers treat students from whom they expect superior achievement differently than those from whom they expect inferior performance is examined. Five ways of reacting on the part of the teacher are identified for the purpose of this study--teacher warmth, teacher feedback, teacher selection of materials, opportunity offered for student response, and frequency of touch. Physical education teachers were asked to rank their students as either high or low achievers and were then observed for a two-week period. The following behaviors were observed: (1) high achieving students were asked more questions and given more opportunity to respond; (2) teachers treated designated high achievers more warmly than designated low achievers; (3) there was little evidence that teachers provided more feedback to high achievers; (4) there was no significant evidence that teachers taught more new material to high achievers; and (5) teachers did not touch their designated high achievers more than designated low achievers. (JD)

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An Observational Study of Teachers' Expectancy Effects and Their Mediating Mechanisms

Educational theorists throughout the years have discussed the positive and negative outcomes of teachers' expectations on pupils' intellectual development and potential. Dr. Robert Rosenthal (1974) stated that " until recently the evidence for the hypothesis of the self-fulfilling prophecy has been observational or correlational, rather than experimental" (p.1)

In an effort to find answers and to document evidence that teachers' expectations or prophecies could make some differences in either their evaluation of their students or their students' actual performance, Dr. Rosenthal (1968, 1969, 1976) undertook extensive studies in both the laboratory (animal) and human subjects) and in the educational classroom. Rosenthal's work addressed a major social problem and as a result, the "expect-effect" phenomenon precipitated a number of replications.

For the past twenty years, the research on expectancy effects has accumulated and there is enough evidence to support Rosenthal's theory of the self-fulfilling prophecy, namely, that the expectancy effect does indeed exist. Since 1970, investigators (Brophy and Good, 1970; Rothbart, 1971; Rubovitz and Maehr, 1971) have made an attempt at explaining the Pygmalion Effect rather than placing their emphasis on replication of the effect.

In 1973, Rosenthal (1974) reviewed and summarized all of the studies of the self-fulfilling prophecy. He focused on those studies which revealed evidence of the mediation of self-fulfilling expectations operating in classrooms, offices and factories. From his preliminary evidence, Rosenthal devised a four factor "theory" on the mediation of self-fulfilling expectations. His contention was that teachers, counselors, and supervisors who expect superior performance from their charges treat them differently than expected inferior performers in four particular ways:

1. Climate: Teachers appear to create a warmer socio-emotional climate for their "special" students in the following ways: Smile, wink, establish and maintain eye contact, pat on back, place hands on student, raise eyebrows and smile, give sign or any gesture of approval, indicate friendliness, support and understanding, have pleasant-sounding voice.

2. Feedback: Teachers appear to give to their "special" students more differentiated feedback as to how these students have been performing. More attention is given and more active teaching occurs with special students. Both Climate and Feedback involve differential teacher warmth toward students of whom more versus less is expected. However, if a teacher shows warmth and gives praise specifically in response to a correct response, or helps to correct a response (by giving clues or rephrasing) or asks for further information, then the Feedback factor would be operating.

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3. Input: Teachers appear to teach more material and more difficult material to their "special" students. As compared to the Feedback Factor where active teaching occurs (praise for correct response, correcting incorrect response, or giving clues), the distinction between Feedback and Input is in the amount of new material and more difficult material taught to students of whom more is expected.

4. Output: Teachers appear to give their "special" students greater opportunities for responding. Skill and competence is encouraged by the teacher and greater demands may be imposed by the teacher on students of whom more is expected. These demands and opportunities can take form in the following ways: giving students more time to respond or perform, calling more often on those students, or asking those students to perform more difficult tasks or answer more difficult questions.

This present study was concerned with the identification of the operation of the Pygmalion Effect and the intervening factors responsible for the effect. The purpose of the study was to investigate and identify student behavior based on Rosenthal's Four Factor Theory (1974, pp 14-24) An additional variable, Touch, was included as a fifth factor. These variables were used to identify teachers' differential treatment of students according to the teachers' expectations, and to identify students' differential responses according to the teachers' expectations (high or low).

Procedure

Four different physical education activity classes were selected for observational study. Teachers were asked to rank their students (total group in each class) in order of their physical achievement or skill potential. The rankings were used as the criterion measure of the teachers' expectations for their students' performance in physical education. Three judges, trained in the use of the Brophy and Good Interaction Analysis System (1969) observed 96 (24 students from each class) junior high school students on six separate days within a two-week period. Forty-eight of the students were designated as high achievers and 48 of the students were designated as low achievers.

Discussion

Summary sheets were developed for separate tabulations of the coded observations. Twenty-four frequency measures and 32 percentage measures were derived from the coding. Analyses of variance were performed on the five variables to assess the effects of teacher expectations and class, and their interactions on the obtained rankings, and to determine the effect of five different variables on high and low achievers. Five hypothetical statements were used as a guide for analysis and interpretation of data. Each statement was analyzed and interpreted on the basis of frequency and percentage measures.(quantity and quality) The data yielded the following results:

1. Quantity and types of contacts. Designated high-achieving students were asked more questions and given more opportunities to respond 75% more of the time than the designated low-achieving students. Teachers approached the high achievers 61% more of the time for procedural activities. Designated high-achieving students were given the opportunity to interact and react with their teachers 71% more of the time than the designated low-achieving students for total dyadic contacts. The data indicated that there was a significant difference between the high and the low expectancy groups and that these groups were treated differently according to the teachers' expectations. The data, however, do not specifically indicate whether the expectations were determined by the students or by the teachers.

2. Climate. The data for the Climate variable provide evidence that teachers treat their designated high-achieving students more warmly than they treat their designated low-achieving students. Teachers gave praise to their designated high-achieving students 62% more than they gave praise to their designated low achievers. The frequency measure indicates that the amount of praise and warmth can be interpreted only as a causal factor and attributed only to objective differences.

The measures on direct comparisons of both groups under equal circumstances indicated that when teachers expected students to perform better, the teachers treated those students more warmly and gave more support (both verbally and non-verbally) than they did to those students of whom they expected less. Designated high-achieving students answered more questions correctly and as a result received more evaluative comments (affirmation and praise) for their correct performance than did the designated low achievers. Teachers also praised the designated high achievers more than they praised the designated low achieveers when responses were incorrect. The evidence clearly indicates that teachers display differential behaviors to the designated high and low achievers under equal situations.

3. Feedback. The data for the variable Feedback indicated some support for teacher expectations, but the evidence is limited. Although the level of performance was significantly greater for the designated high achievers than for the designated low achievers, there was not enough evidence to suggest that teachers gave more sustained feedback to the designated high achievers. However, there were significant differences in the amount of affirmation coupled with praise which suggests that teachers do reward their designated high achievers for the desired or correct responses expected from the teacher. The designated low achievers were not praised for their good performance as much as the designated high achievers. Further work is needed to confirm teacher expectancies relating to the Feedback variable.

4. Output. Strong support was not provided for the Output Factor. The evidence does significantly suggest that designated high achievers did receive more attention and were given more opportunities to respond more than the designated low achievers.

The evidence, however, did not show a significant difference in the amount of reinforcement given by the teachers. However, when the designated highs responded with correct answers, the teachers rephrased the question or made suggestions providing a second response opportunity for the high achievers more than they did of the low achievers. More evidence is needed to support the Output Factor.

5. Input. There was no significant evidence to suggest that teachers taught more new material to the designated high achievers than they did to the designated low achievers. Stronger support is needed to confirm teacher expectations relating to the Input Factor.

6. Touch. There was no significant evidence to support the contention that teachers touched their designated high-achieving students more than they touched their designated low-achieving students. The frequencies of interactions were minimal and more evidence must be accumulated to provide additional support of the Touch Factor. Teachers did not exhibit any more Climate, Feedback, Output, or Input, when they touched the designated high achievers than they did when they touched the designated low achievers.

Conclusions

The contributions of the present study have increased further the probability that expectancy effects occur in an educational setting. Additional evidence is needed, however, to substantiate the present findings and to corroborate Rosenthal's Four Factor Theory (1974). It was concluded that stronger support was needed to show that teachers communicate their expectations to their students through differential teacher behaviors. In addition, other factors (extension of observation time, measuring attention time, sex and race, separation of verbal and nonverbal climate, anecdotal record) that were not examined in the present study may need to be looked at to determine the extent of the operation of the Pygmalion Effect.

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Note: A more extensive reference list is available on request.